



vacuum contactor AC-3e/AC-3 400 A, 200 kW / 400 V, 3-pole, U_c: 96-127 V AC(50-60 Hz) / DC PLC input 24 V DC drive: electronic auxiliary contacts 2 NO + 2 NC main circuit: busbar control and auxiliary circuit: screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT12
General technical data	
size of contactor	S12
product extension	
• function module for communication	No
• auxiliary switch	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	63 W
• at AC in hot operating state per pole	21 W
• without load current share typical	3.6 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
• of main circuit with degree of pollution 3 rated value	1 000 V
• of auxiliary circuit with degree of pollution 3 rated value	500 V
surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• at DC	8,5g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 10 ms
mechanical service life (operating cycles)	
• of contactor typical	10 000 000
• of the contactor with added electronically optimized auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	05/01/2012
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 6,6'-di-tert-butyl-2,2'-methylene-di-p-cresol - 119-47-1
Weight	10.57 kg
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	

<ul style="list-style-type: none"> during operation during storage 	-25 ... +60 °C
	-55 ... +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0
operating voltage	
<ul style="list-style-type: none"> at AC-3 rated value maximum at AC-3e rated value maximum 	1 000 V 1 000 V
operational current	
<ul style="list-style-type: none"> at AC-1 at 400 V at ambient temperature 40 °C rated value at AC-1 <ul style="list-style-type: none"> up to 690 V at ambient temperature 40 °C rated value up to 690 V at ambient temperature 60 °C rated value at AC-3 <ul style="list-style-type: none"> at 400 V rated value at 500 V rated value at 690 V rated value at AC-3e <ul style="list-style-type: none"> at 400 V rated value at 500 V rated value at 690 V rated value at AC-4 at 400 V rated value at AC-6a <ul style="list-style-type: none"> up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value at AC-6a <ul style="list-style-type: none"> up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value 	610 A 610 A 550 A 400 A 400 A 400 A 400 A 400 A 400 A 400 A 350 A 400 A 400 A 400 A 400 A 293 A 293 A 293 A 293 A
minimum cross-section in main circuit at maximum AC-1 rated value	370 mm ²
operational current for approx. 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> at 400 V rated value at 690 V rated value 	175 A 175 A
operating power	
<ul style="list-style-type: none"> at AC-3 <ul style="list-style-type: none"> at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value at AC-3e <ul style="list-style-type: none"> at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value 	132 kW 200 kW 250 kW 400 kW 132 kW 200 kW 250 kW 400 kW
operating power for approx. 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> at 400 V rated value at 690 V rated value 	98 kW 172 kW
operating apparent power at AC-6a	
<ul style="list-style-type: none"> up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value 	150 kVA 270 kVA

<ul style="list-style-type: none"> • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value 	340 kVA 470 kVA
operating apparent power at AC-6a	
<ul style="list-style-type: none"> • up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 1000 V for current peak value n=30 rated value 	110 kVA 200 kVA 250 kVA 350 kVA 500 kVA
no-load switching frequency	
<ul style="list-style-type: none"> • at AC • at DC 	1 000 1/h 1 000 1/h
operating frequency	
<ul style="list-style-type: none"> • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3e <ul style="list-style-type: none"> — maximum • at AC-4 maximum 	700 1/h 250 1/h 750 1/h 750 1/h 250 1/h

Control circuit/ Control	
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type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
<ul style="list-style-type: none"> • at 50 Hz rated value • at 60 Hz rated value 	96 ... 127 V 96 ... 127 V
control supply voltage at DC rated value	96 ... 127 V
operating range factor control supply voltage rated value of magnet coil at DC	
<ul style="list-style-type: none"> • initial value • full-scale value 	0.8 1.1
operating range factor control supply voltage rated value of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.8 ... 1.1 0.8 ... 1.1
type of PLC-control input according to IEC 60947-1	Type 2
consumed current at PLC-control input according to IEC 60947-1 maximum	20 mA
voltage at PLC-control input rated value	24 V
operating range factor of the voltage at PLC-control input	0.8 ... 1.1
design of the surge suppressor	with varistor
apparent pick-up power	
<ul style="list-style-type: none"> • at minimum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz — at 60 Hz • at maximum rated control supply voltage at AC <ul style="list-style-type: none"> — at 60 Hz — at 50 Hz 	560 VA 560 VA 750 VA 750 VA
apparent pick-up power of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	750 VA 750 VA
inductive power factor with closing power of the coil	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.8 0.8
apparent holding power	
<ul style="list-style-type: none"> • at minimum rated control supply voltage at DC • at maximum rated control supply voltage at DC 	3 VA 3.6 VA
apparent holding power	
<ul style="list-style-type: none"> • at minimum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz — at 60 Hz • at maximum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz — at 60 Hz 	5.6 VA 5.6 VA 9 VA 9 VA
inductive power factor with the holding power of the coil	

<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.5 0.4
closing power of magnet coil at DC	800 W
holding power of magnet coil at DC	3.6 W
closing delay	
<ul style="list-style-type: none"> • at AC • at DC 	60 ... 90 ms 60 ... 90 ms
opening delay	
<ul style="list-style-type: none"> • at AC • at DC 	80 ... 100 ms 80 ... 100 ms
arcing time	10 ... 15 ms
control version of the switch operating mechanism	PLC-IN or Standard A1 - A2 (adjustable)

Auxiliary circuit

number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
<ul style="list-style-type: none"> • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value 	6 A 3 A 2 A 1 A
operational current at DC-12	
<ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at DC-13	
<ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings

full-load current (FLA) for 3-phase AC motor	
<ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	361 A 382 A
yielded mechanical performance [hp]	
<ul style="list-style-type: none"> • for 3-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value 	125 hp 150 hp 300 hp 400 hp
contact rating of auxiliary contacts according to UL	A600 / Q600

Short-circuit protection

design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
design of the fuse link	
<ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — with type of coordination 1 required — with type of coordination 2 required • for short-circuit protection of the auxiliary switch required 	gG: 800 A (690 V, 100 kA) gG: 800 A (690 V, 50 kA), aM: 630 A (690 V, 50 kA), BS88: 800 A (415 V, 50 kA) gG: 10 A (500 V, 1 kA)

Installation/ mounting/ dimensions

mounting position	+/-22,5° rotation possible on vertical mounting surface; can be tilted forward
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	and backward by +/- 22.5° on vertical mounting surface
fastening method side-by-side mounting	Yes
fastening method	screw fixing
height	217 mm
width	160 mm
depth	225 mm
required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — downwards 10 mm — at the side 0 mm • for grounded parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — at the side 10 mm — downwards 10 mm • for live parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — downwards 10 mm — at the side 10 mm 	

Connections/ Terminals

type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil 	Connection bar screw-type terminals Screw-type terminals Screw-type terminals
width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for AWG cables for main contacts 	2/0 ... 500 kcmil
connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> • stranded 	70 ... 240 mm ²
connectable conductor cross-section for auxiliary contacts	
<ul style="list-style-type: none"> • solid or stranded • finely stranded with core end processing 	0.5 ... 4 mm ² 0.5 ... 2.5 mm ²
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²) — solid or stranded 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²) — finely stranded with core end processing 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) • for AWG cables for auxiliary contacts 2x (20 ... 16), 2x (18 ... 14), 1x 12 	
AWG number as coded connectable conductor cross section for auxiliary contacts	18 ... 14

Safety related data

product function	
<ul style="list-style-type: none"> • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1 	Yes No

Electrical Safety

protection class IP on the front according to IEC 60529	IP00; IP20 with box terminal/cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover

Approvals Certificates

General Product Approval	EMV
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Functional Safety	Test Certificates	Maritime application
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[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Maritime application	other
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[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)

Railway	Environment
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[Special Test Certificate](#)



[Environmental Confirmations](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1275-6NF36>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1275-6NF36>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1275-6NF36>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

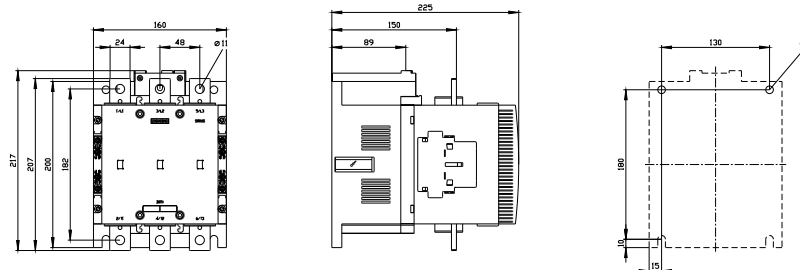
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1275-6NF36&lang=en

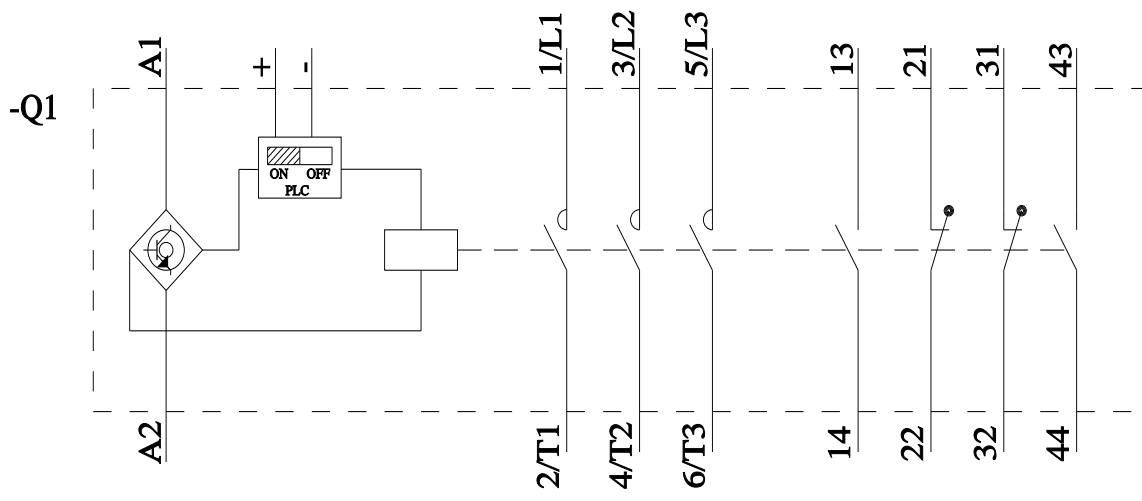
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1275-6NF36/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1275-6NF36&objecttype=14&gridview=view1>





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